

**What is Claimed is:**

1. A limiting current type oxygen sensor comprising:

a patterned cathode layer;

a patterned anode layer;

5 a patterned solid electrolyte layer disposed in between  
one surface of the cathode layer and the anode layer;

a patterned gas barrier film; and

a plane porous diffusion layer for controlling gaseous diffusion  
rate disposed on the other surface of the cathode layer,

10 wherein said cathode layer has a bonding pad portion for  
connecting electrically with an external lead wire, a part of  
the bonding pad is covered with the patterned solid electrolyte  
layer, and the other part of the bonding pad is exposed to an  
atmosphere of the sensor,

15 wherein said patterned gas barrier film is disposed in  
between the bonding pad and the patterned solid electrolyte layer  
at a boundary between the part of the bonding pad being in contact  
with the patterned solid electrolyte layer and the other part  
of the bonding pad exposed to the atmosphere, and surroundings  
20 thereof.

2. A limiting current type oxygen sensor comprising:

a patterned cathode layer;

a patterned anode layer;

25 a patterned solid electrolyte layer disposed in between  
one surface of the cathode layer and the anode layer;

a patterned gas barrier film; and

a plane porous diffusion layer for controlling gaseous diffusion rate disposed on the other surface of the cathode layer,

wherein said cathode layer has a bonding pad portion for  
5 connecting electrically with an external lead wire, a part of  
the bonding pad is covered with the solid electrolyte layer, and  
the other part of the bonding pad is exposed to an atmosphere  
of the sensor,

wherein a boundary between the part of the bonding pad being  
10 in contact with the patterned solid electrolyte layer and the  
other part of the bonding pad exposed to the atmosphere, and  
surroundings thereof are covered with said patterned gas barrier  
film.